

### **REMARKS/ARGUMENT**

Claims 1-10 and 21-28 are pending in the present application. Claims 11-20 were previously cancelled without prejudice in response to a restriction requirement. Claims 6, 10, 21-23, and 26 are amended herein. No new matter has been added.

Reconsideration of the claims based on the below comments is respectfully requested.

#### **Objection to the Specification**

The specification was objected to for certain informalities with respect to the disclosure of FIG. 2 and facets 22, 24, 26, and 28. The specification has been amended to correct two recitations of “illumination redirection facet(s)” to now recited “overillumination redirection facet(s)”. Applicants’ request that the informalities objection to the specification be withdrawn. No new matter has been added.

The specification was further objected to for not providing proper antecedent basis for claim 10 and for not supporting claims 22, 23, and 26. The Office Action refers to paragraph [0018] of pre-grant publication 2004/0142370, which recites, *inter alia*, that “[t]he overillumination redirection facets 22, 24, 26, and 28, reflect the input light via total internal reflection to reflect the over-illuminated portion of the input illumination approximately perpendicular to the illumination light guide 18.” The paragraph [0018] disclosure includes specific references to FIG. 2, which illustrates an embodiment of overillumination redirection facets 22, 24, 26, and 28. FIG. 2 shows at least one end of one or more overillumination redirection facets disposed at an angle approximating 45 degrees relative to illumination light guide 18. Furthermore, the embodiment illustrated in FIG. 5 similarly shows overillumination redirection facets disposed at an angle approximating 45 degrees relative to illumination light guide 18. Based on the specification and figures of the present application, it would have been apparent to one of ordinary skill in the art of the Applicants’ disclosure that the angle of at least one end of the overillumination redirection facets approximates a 45 degree angle from the illumination light guide. Such an understanding is further demonstrated by paragraph [0019] of pre-grant publication US 2004/0142370, which further recites that:

[E]ach of overillumination redirection facets 22, 24, 26, and 28 may be disposed to redirect overilluminating light in other directions, including above and below the direction of input, and away from rather than through the input beam [...]

More or fewer redirection facets may be employed as required by specific optical format embodiments.”

For at least these reasons, Applicants’ request that the objection to the specification and claims 10, 22, 23, and 26 also be withdrawn. No new matter has been added.

### **Objection to the Claims**

Claims 10 and 21-23 were objected to for various informalities. Claims 10 is amended to replace the terms “redirect” and “direction” with the term “redirection”. Claims 21-23 are amended to replace instances of the term “overilluminating” with “overillumination”. Claims 23 and 26 are also amended to replace the term “facet” with the term “facets”. Applicants’ request that the objection to claims 10 and 21-23 be withdrawn. No new matter has been added.

### **Rejection of Claims 2, 6, and 24 Based on 35 U.S.C. § 112**

Claims 2 and 24 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action alleges that it is unclear what the structural difference is between an “overillumination redirection facet” and the further required “illumination redirection facet”. Page 5. The “illumination redirection facet” recited in claims 2 and 24 is a separate claim element from the “overillumination redirection facets” recited in independent claim 1, as demonstrated by, for example, the use of the indefinite article “a” in claims 2 and 24. A non-limiting example of an illumination redirection facet is illustrated as element 30 in FIG. 1 and is discussed in ¶ [0017] of pre-grant publication US2004/0142370. A non-limiting example of “overillumination redirection facets” is illustrated in FIGS. 1-2. For at least this reason, the indefiniteness rejection of claims 2 and 24 should be withdrawn, and the claims should be in a condition for allowance.

Claim 6 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 6 is amended to recite that the illumination light guide has a first cross-sectional area and the detection guide has a second cross-sectional area, the second cross-sectional area being larger than said first cross-sectional area. Support for the claim amendment can be found, for example, in FIG. 1 and in ¶¶ [0017], [0024], and [0028] of pre-grant publication 2004/0142370. Amended claim 6 overcomes the rejection, and thus, the claim should be in a condition for allowance.

**Anticipation Rejection of Claims 1-3, 7-9 and  
21-24 Based on Lemelson**

Claims 1-3, 7-9, and 21-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Lemelson US 4,803,992 (“Lemelson”).

Lemelson’s system differs from the claimed invention as described below. Lemelson discloses a catheter with an elongated housing 11 with a cable formed of four separate flexible light pipes 22, 24, 26, 28. Column 3, lines 39-50. The apparatus also contains a plurality of reflective surfaces 14 and 15. Column 4, lines 25-26. Light directed along and from the end of light pipe 22 is reflected through fluid, such as body fluid existing in a cavity 16. Column 4, lines 42-46. However, in contrast to the claimed invention, Lemelson fails to disclose overillumination redirection facets adapted to redirect light overilluminating an illumination light guide away from the illumination light guide.

**Independent Claim 1**

Claim 1 recites a format for optical analysis of samples comprising, *inter alia*, (i) an illumination light guide in optical communication with an illumination input area and forming an input light path, and (ii) one or more overillumination redirection facets adapted to redirect light overilluminating the illumination light guide away from the illumination light guide.

Lemelson discloses a device 10 that contains a plurality of reflecting surfaces 14 and 15. *See* FIG. 1; column 4, lines 25-26. Reflecting surfaces 14 and 15 receive light energy passed through the lens 23 of the light pipe 22 from a source of light located at the other end of light pipe 22. However, unlike claim 1, reflecting surfaces 14 and 15 are not adapted to redirect light overilluminating an illumination light guide away from the illumination light guide. That is, reflecting surfaces 14 and 15 merely redirect light through a fluid and fail to redirect overilluminating light. In fact, reflecting surfaces 14 and 15 direct light from light pipe 22 to light pipe 28, not away from an illumination light guide, as recited in claim 1. *See* Lemelson, FIG. 1; column 4, lines 25-54. Thus, Lemelson fails to disclose, teach or suggest one or more overillumination redirection facets adapted to redirect light overilluminating the illumination light guide away from the illumination light guide.

For at least the reasons cited herein, claim 1 is not anticipated by or rendered obvious over Lemelson, and thus, should be in a condition for allowance.

Dependent Claims 2, 3, 7-9, and 21-24

Claims 2, 3, 7-9, and 21-24, which depend either directly or indirectly from claim 1, are not anticipated by or rendered obvious over Lemelson for at least the reasons discussed above in connection with claim 1. Thus, claims 2, 3, 7-9, and 21-24 should also be in a condition for allowance.

**Anticipation Rejection of Claims 1-3, 7, 9, and 21-24 Based on Meserol**

Claims 1-3, 7, 9, and 21-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Meserol EP 0 254 246 ("Meserol").

Independent Claim 1

Meserol's system differs from the claimed invention as described below. Meserol discloses a cuvette 10 with a cavity 22. *See* FIGS. 1-4; column 4, lines 25-40. Meserol further discloses a light beam 30 from source 32 which passes through the cuvette and is reflected by reflecting prism 50 across cavity 22 to reflecting prism 48 where the light is reflected to optical element 36. *See* FIG. 5; column 5, lines 22-46; column 6, lines 10-41. Similar to the shortcomings of Lemelson discussed above, Meserol, too, fails to disclose, teach or suggest one or more overillumination redirection facets adapted to redirect light overilluminating the illumination light guide away from the illumination light guide. That is, reflecting prisms 48 and 50 are adapted to merely reflect light through a fluid and fail to redirect overilluminating light away from an illumination light guide, as recited in claim 1.

For at least the reasons cited herein, claim 1 is not anticipated by or rendered obvious over Meserol, and thus, should be in a condition for allowance.

Dependent Claims 2, 3, 7, 9, and 21-24

Claims 2, 3, 7, 9, and 21-24, which depend either directly or indirectly from claim 1, are not anticipated by or rendered obvious over Meserol for at least the reasons discussed above in

connection with claim 1. Thus, claims 2, 3, 7, 9, and 21-24 should also be in a condition for allowance.

**Anticipation Rejection of Claims 25 and 26  
Based on Tyrrell**

Claims 25 and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Tyrrell US 6,216,022 ("Tyrrell").

Claim 25 recites a format for optical analysis of samples comprising, *inter alia*, (i) an illumination light guide in optical communication with an illumination input area and forming an input light path, and (ii) at least three overillumination redirection facets being adapted to redirect light overilluminating the illumination light guide away from the illumination light guide.

Tyrrell's system differs from the claimed invention as described below. Tyrrell discloses an implantable optical system 14. An optical signal enters the device through an entry window 20 and immediately beneath the window is a mirror 30 that reflects an incoming optical beam. Column 3, lines 1-6. The optical signal from the mirror 30 is directed against a beam splitter 70 that divides the incoming beam into two partial beams. Column 4, lines 14-19. In contrast to claims 25 and 26, Tyrrell fails to disclose, teach or suggest at least three overillumination redirection facets being adapted to redirect light overilluminating the illumination light guide away from the illumination light guide. That is, while Tyrrell's single beam splitter 70 may divide an incoming beam into two partial beams, Tyrrell's beam splitter is not an overillumination redirection facet, as recited in claims 25 or 26, adapted to redirect overilluminating light away from an illumination light guide.

For at least the reasons cited herein, claims 25 and 26 are not anticipated by or rendered obvious over Tyrrell, and thus, should be in a condition for allowance.

**Obviousness Rejection of Claims 4-6 and 25-28 Based on  
Lemelson, Meserol, Lundsgaard, Lipson and/or Naka**

Claims 4-6 and 25-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable. Specifically, claim 4 was rejected as being unpatentable over Meserol in view of Lundsgaard US

5,525,518 ("Lundsgaard"). Claim 5 was rejected as being unpatentable over Meserol in view of Naka US 6,001,307 ("Naka"). Claim 6 was rejected as being unpatentable over Lemelson and Meserol. Claims 25 and 26 were rejected as being unpatentable over Lemelson in view of Lipson US 4,710,623 ("Lipson") and Meserol in view of Lipson. Claim 27 was rejected as being unpatentable over Meserol in view of Lipson and Lundsgaard. Claim 28 was rejected as being unpatentable over Meserol in view of Lipson and Naka.

As discussed above, since all the elements of claims 1 cannot be found in Lemelson or Meserol, a *prima facie* case of anticipation cannot be established for the claimed invention. Furthermore, the rejection of dependent claims 4-6 based on Lemelson, Meserol, Lundsgaard, Naka, or any combination thereof, does not overcome the deficiencies discussed above for the anticipation rejections of independent claim 1. In this regard, Lemelson, Meserol, Lundsgaard, Naka, or any combination thereof, do not disclose or suggest all the elements of claims 4-6.

Furthermore, Lemelson, Meserol, Lundsgaard, Lipson, Naka, or any combination thereof, fail to disclose all the elements of claims 25-28, and thus, a *prima facie* case of obviousness cannot be established for these claims. For example, similar to claim 1, Lemelson and Meserol fail to disclose, teach or suggest overillumination redirection facets adapted to redirect light overilluminating the illumination light guide away from the illumination light guide – claim 25 recites at least three. Lipson does not overcome the shortcomings of Lemelson or Meserol. Lipson discloses a reflective coating 22 layered over a first end 14 of a cable 12. Column 4, lines 26-28. As shown in FIG. 2 and 5, the reflective coating 22 of Lipson is similar to the reflecting surface 14 and 15 in Lemelson and the reflecting prisms 48 and 50 in Meserol. That is, the citations in the Office Action to Lipson does not add anything new to the citations from Lemelson or Meserol. In this regard, Lemelson, Meserol, Lundsgaard, Lipson, Naka, or any combination thereof, do not disclose or suggest all the elements of claims 25-28.

For at least these reasons, claims 4-6 and 25-28 are not rendered obvious over Lemelson, Meserol, Lundsgaard, Lipson, Naka, or any combination thereof. Thus, claims 4-6 and 25-28 should also be in a condition for allowance.

### **CONCLUSION**

Applicant submits that claims 1-10 and 21-28 are in condition for allowance and action toward that is respectfully requested. If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at (312) 425-8552.

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It is believed that no additional fees are due other than the fee for one-month extension; however, should any additional fees be required (except for payment of the issue fee), the Commissioner is authorized to deduct the fees from the Nixon Peabody LLP Deposit Account No. 50-4181, Order No. 247082-000274USPT.

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Respectfully submitted,

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